ABSTRACT OF THE DISCLOSURE

Z-transform calculations may be used to encode (and/or decode) carrier signal independent data (e.g., digital watermarks) to a digital sample stream. Deterministic and non-deterministic components of a

5   digital sample stream signal may be analyzed for the purposes of encoding carrier signal independent data to the digital sample stream. The carrier signal independent data may be encoded in a manner such that it is restricted or concentrated primarily in the non-

10   deterministic signal components of the carrier signal. The signal components can include a discrete series of digital samples and/or a discreet series of carrier frequency sub-bands of the carrier signal. Z-transform calculations may be used to measure a

15   desirability of particular locations and a sample stream in which to encode the carrier signal independent data.

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